REMARKS

Claims 1-31 are pending in the application. Claims 1-31 have been rejected.

Claims 1-20 and 22-31 have been rejected under 35 U.S.C. 102(b) as being anticipated by Johnson *et al.* ("A method for direct audio search with applications to indexing and retrieval").

Johnson *et al.* disclose a method for searching audio data to find an exact match for a given piece of cue-audio. According to this method, the audio data is sampled and several samples are grouped together into single frames. A single feature vector is then calculated for each frame within a segment of audio data. Segments of audio data are represented by covariance matrices calculated from the frame level feature vectors. Finally, the similarity between segments of audio data is determined by calculating the arithmetic harmonic sphericity (AHS) distance between the covariance matrices of two segments. The AHS distance calculation produces a scalar value. According to the AHS metric, the smaller distance value, the greater the similarity between the audio data segments.

In contrast to Johnson *et al.*, Applicant discloses a method for detecting repetitions in an information stream of audiovisual data by generating a distance matrix. A plurality of samples are extracted from the information stream and these samples are accumulated into segments. Vectors, representing samples in respective segments, are generated and the vectors in each segment are correlated to generate a covariance matrix (i.e., a signature) corresponding to the segment. The covariance matrices are aggregated into a sequence of covariance matrices and compared with each other covariance matrix in the sequence or another sequence of covariance matrices to generate a distance matrix. The entries in the distance matrix contain a distance value for each pair of covariance matrices compared as shown in Figure 4 of the application as originally filed. Each graph point (i, j) indicates the distance between element i in one sequence of covariance matrices and element j in the same or another sequence of covariance matrices.

Johnson *et al.* does not disclose the generation of a distance matrix as set forth in Claim 1 ("generating, as a result of the comparing, a distance matrix"). Thus, the present invention as claimed in Claim 1 is not anticipated by Johnson *et al.* and the rejection under 102(b) should be withdrawn.

Since dependent Claims 2-8 depend from independent Claim 1, they are likewise not anticipated by Johnson *et al.* and the rejection of these claims under 102(b) should also be withdrawn.

Johnson *et al.* also do not disclose aggregating covariance matrices of an information stream into a sequence of covariance matrices and comparing each of the covariance matrices in the sequence with each other covariance matrix in the sequence to generate a distance matrix. Thus, the present invention as claimed in Claim 9 ("aggregating each of the covariance matrices ... into a sequence of covariance matrices; and comparing each of the covariance matrices in the sequence with each other covariance matrix in the sequence to generate a distance matrix.") is not anticipated by Johnson, *et al.* and the rejection under 102(b) should be withdrawn.

Since Claims 10-20 depend from Claim 9, they are likewise not anticipated by Johnson *et al.* and the rejection with respect to these claims under 102(b) should be withdrawn.

Since independent Claim 22 is a system claim of Claim 1, the rejection of Claim 22 under 102(b) should be withdrawn for the same reasons that the rejection of Claim 1 under 102(b) should be withdrawn as set forth above. Since Claims 23-28 depend from Claim 22, they are likewise not anticipated by Johnson *et al.* and the rejection with respect to these claims under 102(b) should be withdrawn.

Since independent Claim 29 is a computer product claim of Claim 1, the rejection of Claim 29 under 102(b) should be withdrawn for the same reasons that the rejection of Claim 1 under 102(b) should be withdrawn as set forth above.

Since independent Claim 30 is a computer data signal including program code claim of Claim 1, the rejection of Claim 30 under 102(b) should be withdrawn for the same reasons that the rejection of Claim 1 under 102(b) should be withdrawn as set forth above.

Since independent Claim 31 is a means plus function claim of Claim 1, the rejection of Claim 31 under 102(b) should be withdrawn for the same reasons that the rejection of Claim 1 under 102(b) should be withdrawn as set forth above.

Claim 21 was rejected under 35 U.S.C. 103(a) as being obvious over Johnson *et al.* ("A method for direct audio search with applications to indexing and retrieval"), as applied to Claim 1 above, in view of Ngo *et al.* (U.S. Pat. No. 5,694,474). However, as explained above, Johnson *et al.* does not teach every limitation of Claim 1. Since Claim 21 depends from Claim 1, Claim

21 is non-obvious over Johnson *et al.* as applied to Claim 1 in view of Ngo *et al.* Therefore, the rejection of Claim 21 under 103(a) should be withdrawn.

Even assuming Johnson *et al.* teach the step of "generating, as a result of the comparing, a distance matrix," it would not have been obvious to one of ordinary skill in the art to combine the concept of deleting a value beyond a predetermined threshold as applied in Ngo *et al.* with Johnson *et al.* to create Applicant's invention as claimed in Claims 1 and 21. Ngo *et al.* teach a component of an adapted filter signal processor which separates a mixture of signals received by a plurality transducers. Ngo *et al.* specifically teach the random generation of a fixed number of sets of delay parameters, called a population. Each set is processed by a performance calculator to generate a performance value. Then, the instantaneous performance value of each set is added to a cumulative performance value. Finally, the set with the least cumulative performance value is deleted from the population.

The invention of Ngo *et al.* relates to adaptive filter signal processing, not to searching audio data to find exact matches for a given piece of cue-audio as taught in Johnson *et al.* Thus, it would not have been obvious to combine the concept of deleting a value beyond a predetermined threshold as applied in Ngo *et al.* with Johnson *et al.* to create Applicant's invention as claimed in Claims 1 and 21.

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims pending (i.e., Claims 1-31) are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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